

REMARKS

This Amendment is filed in response to the Office Action dated October 29, 2003. Claims 1 and 13-18 are now pending in this application. Claims 2-12 were cancelled previously. Claims 1 and 13 have been amended. The change made to at least the latter claim has not been made for purposes relating to patentability, and no change in claim scope is either intended or believed effected by that change. Claims 14-18 have been added to provide Applicant with a more complete scope of protection. Claims 1 and 14 are independent.

Claims 1 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application EP 0 726 591 A1 (Suzuki '591) in view of U.S. Patent No. 4,849,674 (Cherry et al.) and European Patent Application EP 0 729 168 (Suzuki '168).

Claim 1 has been amended to recite that the voltage applying step comprises plural sub-steps, each of which includes selecting simultaneously certain plural row wirings that are not adjacent to each other and applying a voltage to the certain plural row wirings selected simultaneously, within an atmosphere containing an organic gas. The sub-steps are conducted successively so that, in each sub-step, the row wirings to which the voltage is applied simultaneously are not adjacent to row wirings to which the voltage was applied in an immediately prior one of the sub-steps, wherein at least one deposit is deposited as a result of the voltage applying step.

By virtue of each sub-step being performed for row wirings that are not adjacent to those for which an immediately-prior sub-step has been performed, an

undesired reduction in a partial pressure of a deposit material within an atmosphere is prevented or at least substantially minimized. Such an undesired reduction can occur if the sub-steps are performed successively, but to *adjacent* row wirings.

In order to assist the Examiner in understanding the method of Claim 1, the following description represents an example of a case in which a sub-step is conducted for non-adjacent row wirings, and where successive sub-steps are performed such that selected row wirings are not adjacent to row wirings selected in an immediately prior sub-step. Assume that certain non-adjacent row wirings are selected in a particular sub-step. For example, in a 1st sub-step, where there are 1st-14th row wirings arranged in that order successively, non-adjacent row wirings, such as a 1st, 6th and an 11th row wiring, are selected. In a next sub-step (e.g., a 2nd sub-step), other plural row wirings (e.g. 4th, 9th and 14th row wirings) that are not adjacent to each other, and which also are not adjacent to any of the row wirings (e.g., the 1st, 6th and 11th) selected in the 1st sub-step, are selected. In a next sub-step (e.g., a 3rd sub-step), still other row wirings (e.g., 2nd, 7th and 12th row wirings) that are not adjacent to each other and non-adjacent to the row wirings (e.g., 4th, 9th and 14th row wirings) selected in the prior sub-step (e.g., the 2nd sub-step), are selected. In this manner, the sub-steps of this example are conducted successively. It should be understood, of course, that the foregoing example has been presented merely for purposes of illustration only, and the example is not intended to limit in the scope of Claim 1 in any way, let alone to that specific example only.

The prior art relied on in the Office Action will now be discussed.

Suzuki '591 relates to a structure for applying a voltage simultaneously to a

plurality of wirings for supplying an activation material to elements, and a structure for applying a voltage successively to adjacent wirings, and also teaches that a voltage is applied within an organic substance atmosphere. However, while Suzuki `591 may be well-suited for its intended purpose, nothing in that reference would teach or suggest plural sub-steps, each of which includes selecting simultaneously certain plural row wirings that are not adjacent to each other and applying a voltage to the certain plural row wirings selected simultaneously, within an atmosphere containing an organic gas, wherein the sub-steps are conducted successively so that, in each sub-step, the row wirings to which the voltage is applied simultaneously are not adjacent to row wirings to which the voltage was applied in an immediately prior one of the sub-steps, as recited in Claim 1.

Cherry et al. refers to a structure for activating an electroluminescent powder phosphor by flowing a current therethrough. According to Cherry et al., a matrix display panel may be initially formed by energizing for a particular time an initial set of column or row electrodes spaced about 16 electrodes apart. Thereafter, another set of electrodes is energized to allow the previous set to cool. Spaces sets of electrodes of the panel are cycled in this fashion for about 90 minutes until the panel has been initially formed to about 25 volts (*see, e.g.*, col. 3, lines 18-26).

Cherry et al. apparently is concerned with a need to avoid a problem of heat, whereas the method of the present invention, on the other hand, is directed to avoiding or at least substantially minimizing a reduction in a partial pressure of a deposit material within an atmosphere. Indeed, nothing has been found, or pointed out, in Cherry et al. that would teach or suggest successively conducting sub-steps, each including selecting

simultaneously certain plural non-adjacent row wirings and applying a voltage thereto, within an atmosphere containing an organic, wherein the sub-steps are successively conducted such that wirings selected in a sub-step are not adjacent to wirings selected in an immediately prior sub-step, as in Claim 1.

Suzuki '168 is concerned with a problem in which heat is generated at the time of forming an electron-emitting device, rather than a need to avoid a reduction in the partial pressure of materials within an atmosphere at the time of depositing a deposit, as is Applicant's invention. At page 13, lines 21-23, relied on in the Office Action, Suzuki '168 states that, in a case where a plurality of columns are selected, the temperature distribution within the substrate, which is caused by the evolution of heat at forming, is taken into consideration. According to Suzuki '168, it is preferred that the columns be selected in, say, a zigzag manner to uniformize the temperature distribution.

However, while Suzuki '168 may be well-suited for its intended purpose, nothing in Suzuki '168 would teach or suggest successively performing sub-steps, each including selecting simultaneously certain plural non-adjacent row wirings and applying a voltage thereto, within an atmosphere containing an organic, wherein the sub-steps are successively conducted such that wirings selected in a sub-step are not adjacent to wirings selected in an immediately prior sub-step, as in Claim 1.

Furthermore, because, as noted above, at least Cherry et al. and Suzuki '168 are concerned with a need to avoid heat during forming, rather than a need to avoid a reduction in the partial pressure of materials within an atmosphere during depositing, there would have been no reason why one skilled in the relevant art, who was faced with the

same problem as was confronted by Applicant at the time of his invention, would have even consulted those references, let alone been motivated to combine them in the manner proposed in the Office Action.

For all of the foregoing reasons, it is respectfully submitted that it would not have been obvious to combine Suzuki '591, Cherry et al., and Suzuki '168 in the manner proposed in the Office Action, in an attempt to attain the method of Claim 1. As such, Claim 1 is deemed clearly patentable over those references, whether considered separately or in combination.

Added independent Claim 14 recites, in part:

“a depositing step of depositing the deposit, the depositing step comprising plural sub-steps, each including applying a voltage to at least one respective row wiring to deposit the deposit to at least one pre-element connected to the at least one respective row wiring, within an atmosphere containing an ingredient for the deposit, the plural sub-steps being conducted successively so that, in each of the plural sub-steps, the at least one respective row wiring to which the voltage is applied is not adjacent to a row wiring to which the voltage was applied in an immediately prior one of the sub-steps.”

For substantially the same reasons as those set forth above, it is respectfully submitted that nothing in the prior art references relied on in the Office Action would teach or suggest the above-quoted features of Claim 14, in which plural sub-steps are conducted successively so that, in each sub-step, the at least one respective row wiring to which the voltage is applied is not adjacent to a row wiring to which the voltage was applied in an immediately prior one of the sub-steps.

As such, Claim 14 is deemed to be clearly patentable over those references.


Claim 13 depends from Claim 1, and Claims 15-18 depend from Claim 13,

and also are believed to be patentable over the prior art relied on in the Office Action, at least for the reason that each dependent claim depends from a patentable base claim.

In view of the foregoing remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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